ircular 158

January, 1923

Anon.

IMPERIAL MYCOLOGICAL INSTITUTE
12 JUL 1945

Spray Home Orchards

EXTENSION SERVICE OF THE COLLEGE OF AGRICULTURE
THE UNIVERSITY OF WISCONSIN
MADISON

The "Spray Ring"

Is organized for more efficient spraying of home orchards. It is made up of a group of farmers having small orchards.

What It Does

Makes possible the owning of a power sprayer at an individual cost less than that of a hand outfit.

Reduces price of spray materials, as they can be secured in large quantities at much better prices than when purchased in small amounts by the individual farmer.

Results in more efficient spraying because of better equipment and better trained operator.

Costs less because the time and material used are reduced.

Results

There is more and better fruit for the home.

The farm orchard becomes an asset instead of a liability.

The farm income may be increased by a surplus of marketable fruit.

Organization

Members are groups of six to twelve farmers whose farms are close together.

They purchase a power machine suitable for their needs, the cost ranging from $200 to $400. Each farmer owns an equal share.

A member of the "ring" acts as operator and is paid for his work. Other officers are named if desired.

Duties of Operator

Operator buys spraying materials.

Sprays orchards of members at the proper time and in the right way.

Distributes cost of spraying among members of the "ring" on the basis of time and materials used in spraying each orchard.

Spray Home Orchards

DEPARTMENTS OF ECONOMIC ENTOMOLOGY, HORTICULTURE AND PLANT PATHOLOGY, CO-OPERATING

EVERY FARMER having an orchard should spray. He should spray thoroughly, at the right time, and with the right materials.

Why Spraying Pays

It is necessary to the production of good fruit in Wisconsin.
It makes possible larger yields.
It keeps the trees healthier.
It is cheap insurance for fruit.

The date of spraying will vary more or less with seasonal conditions, the pests to be controlled, and the varieties of fruit grown. *Never spray fruit trees with poison when many of the blossoms are open.* The more common insect and fungus pests can be controlled under ordinary conditions by the following applications:

Spray Apples for Scale

To control scale insects, spray with lime sulfur shortly before growth starts. Use 5 gallons commercial lime sulfur in 50 gallons of water, which is known as "winter strength lime sulfur". This spray is needed only when the scale becomes fairly numerous. If it is desired to combine this spray with the one following, delay the application until the buds show green.

Control Plant Lice

Spray with 40 per cent "nicotine sulfate" 1 part to 1,000 of water (1 pint to 125 gallons of water), to which should be added 3 or 4 pounds of soap in solution for each 100 gallons. Apply just as the buds begin to show green. This spray will seldom be necessary under Wisconsin conditions.

Annual Sprays Necessary

The above applications may or may not be necessary, but the following applications, known as summer sprays, must be made if the best results in producing pest-free fruit are to be obtained.

Use 1¼ gallons lime sulfur and 1 pound powdered arsenate of lead in 50 gallons of water.

1. "Pink spray." Just before the blossom buds open. (If leaf rollers are numerous use 3 pounds of arsenate of lead).

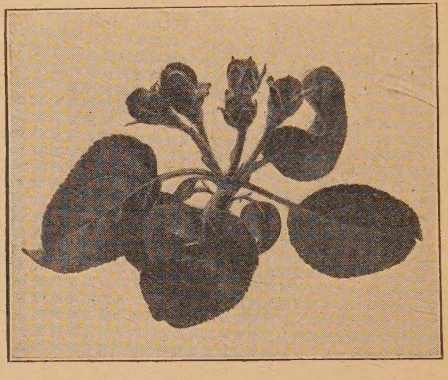

FIG. 1.—PROPER STAGE FOR "PINK" SPRAY.

2. "Calyx spray." As soon as most of the petals have fallen and before the calyx cups close.

3. Ten days after second spray.

4. Three weeks after third spray.

In addition to these four applications two others are frequently of great benefit.

"Pre-pink spray". When leaves of opening buds are about the size of a squirrel's ear. Use regular spray.

"Second brood codling moth and late scab spray". Applied to late varieties eight weeks after fourth spray. Use regular spray.

How Much Spray?

For an apple tree the average amount of spray for one application is as follows:

Age in years.....	10	12	15	20	25
Gallons of spray.....	2	2½	3-4	4-5	5-6

Cherries and Plums

Spray when spraying the apples.

Grapes

Use bordeaux mixture within ten days after blossoming and at intervals of two to three weeks if needed.

Currants and Gooseberries

Currant worm. Use 1 pound arsenate of lead to 50 gallons of water whenever "worms" are present. Examine plantation at least once a week from May 15 to September 1 for presence of pest.

FIG. 2.—READY FOR "CALYX" SPRAY.

Currant lice (aphis). Use 1 pint "nicotine sulfate" to 125 gallons water and 3 pounds of soap in solution just as buds begin to open.

Leaf diseases. Spray when spraying apples.

Raspberries and Blackberries

Anthracnose. Two applications of spray as follows:

1. When first two or three leaves have unfolded on the canes in early spring use lime-sulfur, 1-10. (Winter strength).

2. About one week before blooming period use lime-sulfur, 1-40. (Summer strength).

Crown gall. Use healthy stock and plant in soil where crown gall has not been found.

Cane borers. Prune out and burn the wilted cane tips as soon as observed in June or July. Cut off the wilted tips a few inches below the wilted area.

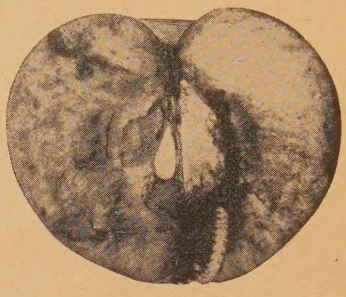

FIG. 3.—CODLING MOTH IN APPLE.

Strawberries

Leaf spot. Cut off the leaves and burn soon after harvest.

Leaf roller. Spray plants with arsenate of lead, 3 pounds to 50 gallons of water, as soon as any rolling of leaves is noticed. Cutting off the leaves and burning soon after harvest also aids in the control.

Root aphis. Use plants known to be free from this insect.

Spray Materials and Formulas

When preparing sprays in small quantities it is very convenient to have a postal scale and a measuring spoon such as is used in the kitchen. It is much more satisfactory to weigh the dry materials. The following formulas give spray materials of approximately the same strength as those used in commercial orchards:

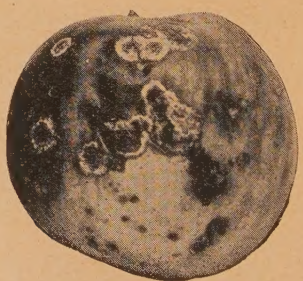

FIG. 4.—APPLE SCAB.

Lime sulfur (liquid) (winter strength) 1 pint to 1 gallon water
Lime sulfur (dry) (winter strength) 4 ounces (8 level tablespoonfuls) to 1 gallon water.
Lime sulfur (liquid) (summer strength) 1 pint to 5 gallons water.
Lime sulfur (dry) (summer strength) 1 ounce (2 level tablespoonfuls) to 1 gallon water.

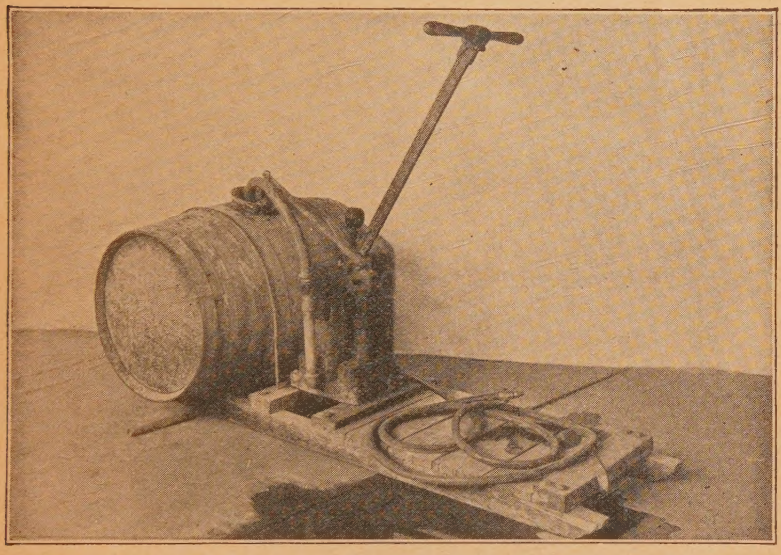

FIG. 5.—A GOOD SPRAYER FOR SMALL ORCHARDS.

Arsenate of lead. To make a spray equivalent to 1 pound to 50 gallons of water, use 1 ounce (6 level tablespoonfuls) to 3 gallons of water.

Bordeaux mixture. For small quantities get ready prepared bordeaux and follow directions on containers.

Published and distributed under the Act of Congress, May 8, 1914, by the Agricultural Extension Service College of Agriculture of the University of Wisconsin, K. L. Hatch, Assistant Director, the United States Department of Agriculture cooperating.